

## 2005-2006 Season

### Overall Lab Surveillance

#### Total Specimens Collected

- Collected in Week 42: **42**
- Season Total: **93**

#### Newly identified influenza

*Newly identified; Cumulative*

- Influenza A: **0;0**
- Influenza B: **0;0**

#### Newly subtyped influenza

*Newly identified; Cumulative*

- Influenza A/H3N2: **0;0**
- Influenza B/HongKong: **0;0**
- Influenza B/Shanghai: **0;0**

### Sentinel Site Lab Surveillance

#### Total Specimens Collected

- Collected in Week 42: **32**
- Season Total: **60**

#### Newly identified influenza

*Newly identified; Cumulative*

- Influenza A: **0;0**
- Influenza B: **0;0**

#### Newly subtyped influenza

*Newly identified; Cumulative*

- Influenza A/H3N2: **0;0**
- Influenza B/HongKong: **0;0**
- Influenza B/Shanghai: **0;0**

### Research Lab Surveillance

#### Total Specimens Collected

- Current Week: **4**
- Season Total: **7**
- Influenza A: **0**
- Influenza B: **0**
- Influenza A/H3N2: **0;0**
- Influenza B/HongKong: **0;0**
- Influenza B/Shanghai: **0;0**

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# DoD Global Influenza Surveillance Program: *Influenza Surveillance at AFIOH*

Week 42

16 - 22 October 2005

### DoD-GEIS Influenza Surveillance System Network

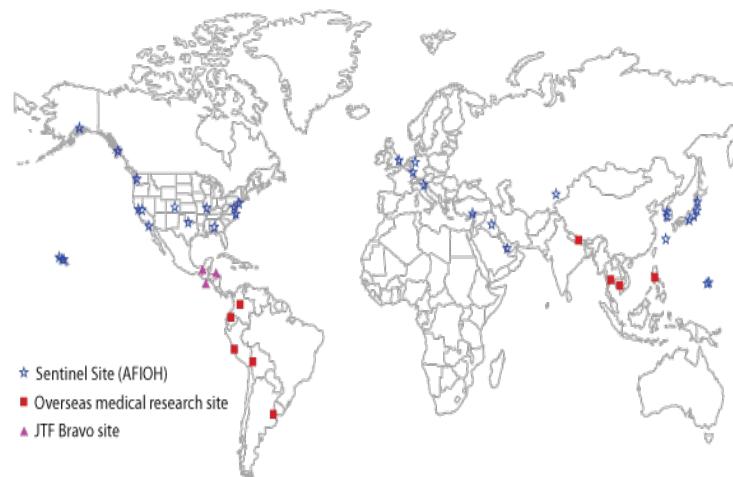
The DoD Global Influenza Surveillance Program was established by the Global Emerging Infections Surveillance and Response System (GEIS) in 1997. It involves a unique network of influenza surveillance efforts from the Air Force Institute for Operational Health (AFIOH), the Naval Health Research Center (NHRC), and the DoD overseas medical research facilities (i.e., the Naval Medical Research Unit located in Cairo, Egypt [NAMRU-2], the Naval Medical Research Unit located in Jakarta, Indonesia [NAMRU-3]).

### AFIOH Influenza Surveillance Network

The influenza program at AFIOH includes global influenza surveillance among DoD beneficiaries at 38 tri-service sentinel sites (including deployed locations in Iraq, Qatar, and Kyrgyzstan), several non-sentinel sites, and two DoD overseas medical research laboratories (the Armed Forces Research Institute of Medical Sciences located in Bangkok, Thailand [AFRIMS], and the U.S. Naval Medical Research Center-Detachment [NMRC-D] located in Lima, Peru) that collect specimens from local residents in Nepal, Thailand, Argentina, Bolivia, Ecuador, Peru, and Colombia. New to our surveillance efforts this season is the addition of the Joint Task Force (JTF) Bravo, in partnership with the US Army Center for Health Promotion and Preventive Medicine-West (CHPPM-W), that will collect specimens from local residents in El Salvador, Guatemala, and Honduras.

### AFIOH Sentinel Sites and Overseas Research Laboratories

2005-2006 Season



### AFIOH Reporting Procedures

The information in this report describes:

- 1) **Overall Laboratory Surveillance** (i.e., all respiratory specimens submitted to and processed by the AFIOH laboratory);
- 2) **Sentinel Site Laboratory Surveillance** (i.e., respiratory specimens submitted by the sentinel sites using the protocol of selecting 6-10 influenza-like illness [ILI] specimens per week); and
- 3) **Overseas Research Laboratory Surveillance** (i.e., respiratory specimens submitted by two of the DoD overseas medical research laboratories [AFRIMS and NMRC-D] and the CHPPM-W sites).

Please visit the [DoD-GEIS website](#) for an overview of influenza surveillance at all collaborating centers.

## Processing Methods

The AFIOH Surveillance Division Laboratory is accredited by the College of American Pathologists (CAP) and is a World Health Organization (WHO) Collaborating Laboratory. It is the central viral laboratory for the DoD Global Influenza Surveillance Program and the main reference laboratory for the Air Force. Thus, the laboratory serves a dual purpose as both a diagnostic laboratory (i.e., for sites ordering respiratory tests on specimens for patient management) and a surveillance laboratory (i.e., for sentinel sites participating in the influenza surveillance program).

Specimens are processed in BSL-2 conditions (BSL-3 available) and tested for influenza, parainfluenza, adenovirus, enterovirus, herpes simplex virus (HSV), and respiratory syncytial virus (RSV). Specimens are held up to 14 days before a negative result is given. All influenza isolates are typed as A or B and a portion are subtyped using hemagglutination-inhibition (HI) or polymerase chain reaction (PCR) procedures. A portion of these isolates undergo molecular sequencing.

## Overall Laboratory Surveillance

Laboratory surveillance describes all specimens submitted to the AFIOH laboratory for respiratory testing (i.e., from sentinel sites, non-sentinel sites, and overseas laboratories).

### Sites submitting specimens for respiratory testing

**Week 42.** At this time, the AFIOH laboratory has received specimens collected during **Week 42** from a total of **14** sites (11 sentinel, 2 non-sentinel, and 1 overseas research site).

**Season submission.** Since 02 October 2005, a total of 16 sites have submitted specimens to the AFIOH laboratory. 81% were sentinel, 13% were non-sentinel, and 6% was an overseas research site (please see map to the right).

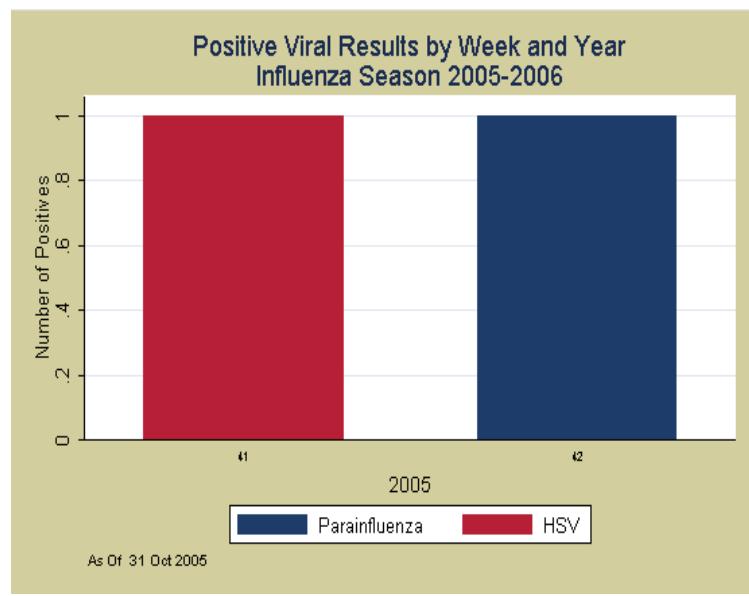
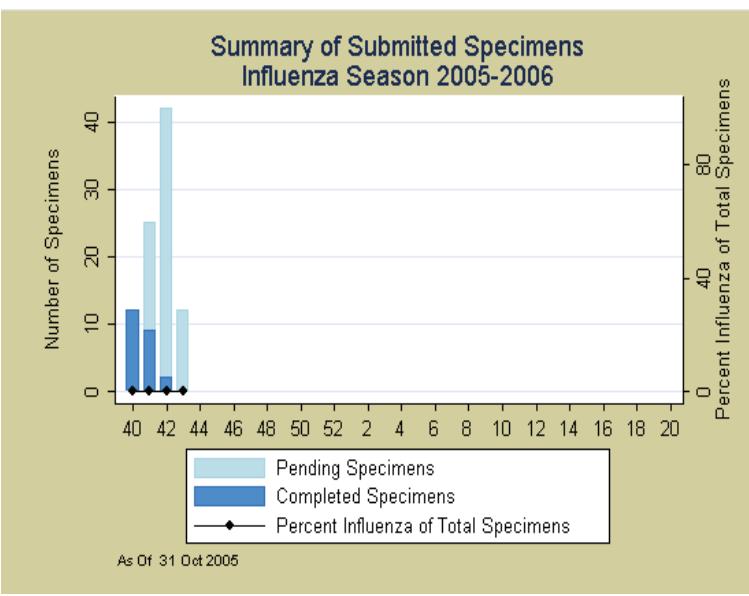


### Overall Laboratory Results

**Week 42 overview.** Forty-two specimens were collected during Week 42 and received at the AFIOH laboratory at the time of this report. Five percent (n=2) of the specimens were processed (1 negative and 1 parainfluenza).

**Season overview.** Since 02 October 2005, a total of 93 specimens were collected and 25% (n=23) have been processed to date. Of the processed specimens, 91% (n=21) of the specimens processed were negative, while 9% (n=2) were positive for a respiratory virus (1 parainfluenza and 1 HSV). Please see the graphs below.

**Subtyping:** No data to report.



## Sentinel Site Laboratory Surveillance

Sentinel site surveillance describes specimens submitted by the 38 sentinel sites using the protocol of collecting 6-10 specimens each week from patients meeting the ILI case definition (**fever  $\geq 100.5^{\circ}\text{F}$  and cough or sore throat**) and completing the "Influenza Surveillance Questionnaire" (see "Sentinel Site Lab Surveillance, page 4"). Two sentinel sites, Tripler Army Medical Center (AMC), located in Hawaii, and Landstuhl Regional Medical Center (RMC), located in Germany, send selected influenza positive specimens to AFIOH to be further characterized. These sites are major medical centers and have established laboratories capable of detecting influenza. Their involvement in the DoD-wide program is valued due to their mission and geographical location.

### *Sites submitting specimens for respiratory testing*

**Week 42.** At this time, the AFIOH laboratory has received specimens collected during **Week 42** from **11** sentinel sites (see map).

**Season submission.** Since 02 October 2005, a total of 13 sentinel sites have collectively submitted 51 specimens.

Sixty-three percent (n=38) of the specimens were collected from OCONUS sentinel sites (Pacific Rim, Europe, Middle East regions) and 37% (n=22) were from CONUS sentinel sites (East North Central, East South Central, West South Central, Pacific, and South Atlantic regions).



**ESSENCE Overview.** AFIOH reviewed ILI activity in the Electronic Surveillance System for the Early Notification of Community-Based Epidemics (ESSENCE) and observed ILI activity at all sentinel sites during Week 42; however, low ILI activity was observed at BMC Sasebo (n=3), CGS Ketchikan (n=9), and Kunsan AB (n=2). This does not indicate that all patients met the ILI case definition (i.e., fever  $\geq 100^{\circ}\text{F}$  and cough or sore throat); however, an abundance of ILI activity is a good indicator that enough patients met the case definition for inclusion in the program. Detailed site-specific ESSENCE data can be viewed in the "AFIOH Sentinel Site Report" (see website).

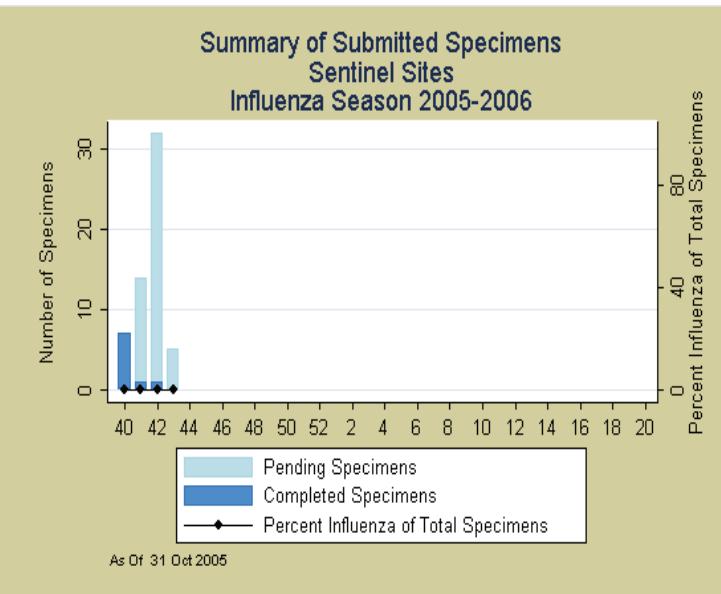
**Actions Taken:** AFIOH has produced a separate, more detailed "Sentinel Site Surveillance Report" for all sentinel sites. The report identifies site-specific weekly compliance to the surveillance protocol by reporting the specimens collected and submitted to the surveillance program as well as the site-specific ILI activity observed in ESSENCE.

### *Sentinel Site Laboratory Results*

**Week 42 overview.** Thirty-two specimens were collected during Week 42 and received by the AFIOH laboratory. Three percent (n=1) of the specimens were processed (negative result).

**Season overview.** Since 02 October 2005, a total of 60 specimens were collected and 15% (n=9) have been processed to date. All (n=9) of the specimens processed were negative.

**Subtyping:** No data to report.



No data available for "Summary of Positive Results".

### Influenza Surveillance Questionnaire

Sentinel sites are requested to complete and submit an "Influenza Surveillance Questionnaire" from each sentinel site that submits a respiratory specimen to this Program. As of 19 October 2005, a total of 8 questionnaires have been submitted online (from specimens collected during Weeks 40-42). We anticipate linking this data with the laboratory results when a sufficient amount of data is supplied.

**Case Definition:** 71.1% (27/38) of questionnaires submitted on patients seen between weeks 40-42 met the case definition. [Of patients meeting the case definition:](#)

**Gender:** 41% female, 59% male

**Age:** 22% <5 years, 15% 5-18 years, 63% 18-65 years

**Influenza Vaccine:** 15% (4/27) reported receiving the vaccine this season; however 3/4 received the vaccine within 2 weeks of getting sick. The date of vaccination was unclear for one patient.

**Active Duty:** 52%

**Quarters:** Of Active duty, 71% were put on quarters (60% were for 3 days or more)

**Hospitalized:** Only 1 patient was hospitalized (an AD member admitted for 12 hours)

### Overseas Medical Research Laboratory Surveillance

The overseas medical research laboratory surveillance describes all specimens submitted by one of the DoD overseas medical research laboratories and the JTF Bravo sites. Specimens are batched for shipments and therefore we do not receive specimens on a weekly or monthly basis.

#### Sites submitting specimens for respiratory testing

**Week 42.** At this time, the AFIOH laboratory has received specimens collected during **Week 42** from one CHPPM-W site (Honduras).

**Season submission.** Since 02 October 2005, the AFIOH laboratory received specimens from one CHPPM-W site that collected specimens from local residents in Honduras.

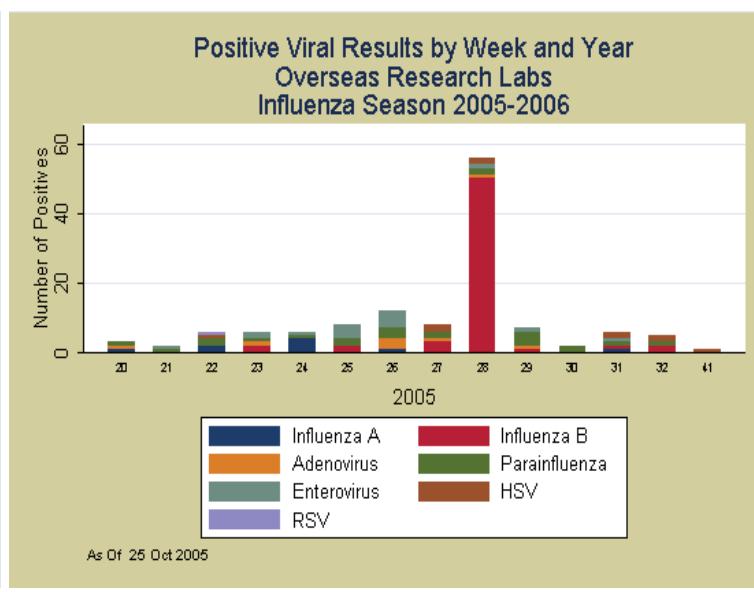
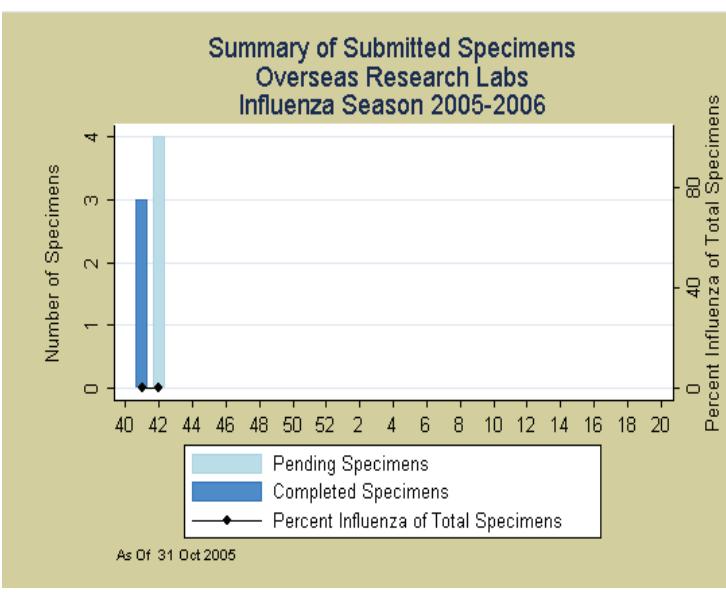


#### Laboratory Results

**Week 42 overview.** Four specimens were collected during Week 42 and received at the AFIOH laboratory at the time of this report. Results for all 4 specimens are pending.

**Season overview:** Since 02 October 2005, 7 specimens were collected and 43% (n=3) have been processed to date. Of those processed, 67% (n=2) were negative and 33% (n=1) was positive for a respiratory virus (HSV).

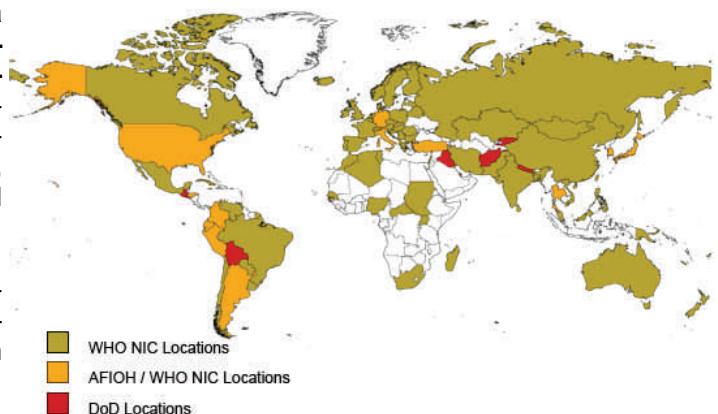
**Subtyping:** No data to report.



## Contributions to National and Global Influenza Surveillance

The map to the right provides an illustration of how AFIOH data augments the current influenza surveillance network. **It is important to note that although a country is highlighted, surveillance may be limited in scope.** WHO has 113 National Influenza Centers (NIC) located in 87 countries. AFIOH provides influenza surveillance data from 21 countries - 8 countries (Bolivia, El Salvador, Guatemala, Iraq, Kyrgyzstan, Nepal, Nicaragua, and Qatar) are not otherwise included in the current WHO network.

Please note: This map describes the countries submitting specimens to AFIOH and does not include all DoD contributing countries (i.e., NAMRU-2 and NAMRU-3 surveillance described on page 1).



### Data Sharing

Each week, AFIOH electronically reports de-identified program data to CDC using the Public Health Laboratory Information System (PHLIS). On 28 October 2005, AFIOH reported respiratory data from **18** (*23 for the 2005-2006 Season*) processed specimens to CDC for use in WHO's global influenza surveillance and CDC's United States influenza surveillance.

### Surveillance findings

**Week 42:** CDC reported a low level of influenza activity in the US (1.1% of specimens processed were positive for influenza). One percent of patient visits to US sentinel providers were due to ILI (below the national baseline of 2.2%). WHO reported a total of 11 influenza isolates in China.

### Detailed WHO and/or CDC Influenza Surveillance Information:

National Influenza Activity (**CDC**): <http://www.cdc.gov/ncidod/diseases/flu/weeklychoice.htm>

International Influenza Activity (**WHO**): <http://www.who.int/GlobalAtlas/DataQuery/home.asp>

## SIDR Surveillance

### Influenza-like Illness Hospitalization Surveillance at Air Force Facilities

The Standard In-Patient Data Registry (SIDR) captures in-patient hospitalization data via CHCS from all DoD military treatment facilities. The SIDR database is updated monthly. AFIOH reviews a list of ILI ICD-9 codes captured in the first 4 diagnoses for a hospitalized patient.

*October Surveillance.* Unable to report data at this time due to database issues.

## SADR Surveillance

### Influenza-like Illness Ambulatory Surveillance at Air Force Facilities

The Standard Ambulatory Data Registry (SADR) captures ambulatory data via CHCS from all DoD military treatment facilities. The SADR database is updated weekly. AFIOH reviews a list of ILI ICD-9 codes captured in the first 4 diagnoses for patients seeking ambulatory care.

*Week 42 Surveillance.* Unable to report data at this time due to database issues.

**Influenza News***Influenza Outbreaks*

At this time, AFIOH has received no information of outbreaks occurring at any of the sentinel site locations.

*Avian Influenza Updates***Tracking**

- **Human Cases:** From Nov 26, 2003 to Oct 24, 2005 there were 121 cases of avian influenza (H5N1) confirmed by WHO. The case fatality rate was 51.2%. The majority of cases were from Viet Nam, but cases also occurred in Indonesia, Cambodia, and Thailand. Thailand has not reported any cases in the last year. Reference: [http://www.who.int/csr/disease/avian\\_influenza/country/en/](http://www.who.int/csr/disease/avian_influenza/country/en/)
  - **Avian Cases:** The first case of bird flu was detected in Iraq. A sick chicken from a poultry farm in Erbil, Iraq (northern part of the country) was confirmed positive for avian influenza by a reputable lab in Cairo, Egypt. This comes two weeks after Turkey, which borders Iraq, reported avian influenza. Source: <http://www.promedmail.org/pls/promed/f?p=2400:1000>
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**2005-2006 Trivalent Influenza Vaccine Composition****Northern Hemisphere**

- A/New Caledonia/20/99-like (H1N1)
- A/California/7/2004-like (H3N2)
- B/Shanghai/361/2002-like

**Southern Hemisphere (WHO recommendations)**

- A/New Caledonia/20/99-like (H1N1)
- A/Wellington/1/2004-like (H3N2)
- B/Shanghai/361/2002-

This report was prepared on 28 October 2005. For an expanded view of the information in this report, visit our website at <https://gumbo.brooks.af.mil/pestilence/Influenza/>.

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